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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,780	11/20/2003	Jean Joseph Collette	DN2003182	8395
27280	7590	04/14/2006	EXAMINER	
THE GOODYEAR TIRE & RUBBER COMPANY INTELLECTUAL PROPERTY DEPARTMENT 823 1144 EAST MARKET STREET AKRON, OH 44316-0001			MAKI, STEVEN D	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 04/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/717,780	<b>Applicant(s)</b> COLLETTE ET AL.	
	<b>Examiner</b> Steven D. Maki	<b>Art Unit</b> 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4-16 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-16 and 18-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No: \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1) A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3-29-06 has been entered.

2) Claims 15-16 and 18-20 are objected to because of the following informalities: In claim 15 line 7, "lest" should be --least--. Appropriate correction is required.

3) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5) **Claims 1, 4-7, 9-10, 15-16, 18-19 and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Japan 509 (JP 2002-321509).**

Japan 509 discloses a pneumatic tire having a tread comprising blocks separated by circumferential grooves and transverse grooves. Each blocks of the blocks comprises sipes having rows of alternating recesses and protrusions defined by sections S1, S2. The "trace" of the sipe at the tread surface is wavy and the "trace" of

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the sipe in the depth direction is zigzag. See figures 1, 2 and 3. Japan 509 teaches that the trace of the sipe 10 at the tread surface (the configuration of the cross section perpendicular to the train of protrusions and indentations) may be a sine wave, combination of straight lines and curves, a square wave, a zigzag, etc. See paragraph 15 of machine translation. The period of the sipe configuration (e.g. sine wave of section S1, S2) is 1.5 to 5 mm. The amplitude of the sipe configuration (e.g. sine wave of section S1, S2) is 1.5 to 5 mm. The period and amplitude of the sections S1, S2 can be the same. The width of the sipe is 0.2-0.7 mm. See paragraphs 15, 16 and 19 of the machine translation. The recesses and protrusions therefore have constant thickness. Japan 509 also teaches that the trace of the sipe in the depth direction may include short sections S4 as shown in figure 4c so that the unmolding nature after vulcanization can be raised. Figure 4c shows the "trace" of the sipe in the depth direction as being a "zigzag trace with planar vertices" (straight inclined section S1 - straight perpendicular section S4 - straight oppositely inclined section S2 - straight inclined perpendicular section S4 - straight inclined section S1).

Claims 1, 15 and 21 are anticipated by Japan 509. The claimed sipe reads on Japan 509's sipe. The claimed planar vertex reads on the vertex defined by flat sections S4. With respect to the mold blade, one of ordinary skill in the art would readily understand from Japan 509's description of facilitating release of the tire from the mold using the figure 4c embodiment that the sipes are made using mold blades.

6) **Claims 1, 4-7, 9-10, 13 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 509.**

Japan 509 is considered to anticipate claims 1 and 21. In any event: It would have been obvious to one of ordinary skill in the art to shape Japan 509's three dimensional sipe such that it has recesses and protrusions terminating in a planar vertex as claimed since (1) Japan 509 suggests using an "undulating configuration" (e.g. zigzag) for the "trace" of the sipe at the tread surface and the "trace" of the sipe in the depth direction and (2) Japan 509 suggests using an "undulating configuration" in the form of zigzag trace having flat vertices as shown in figure 4c in order to facilitate demolding of the tire after vulcanization. In short, Japan 509's sections S4 suggest the claimed planar vertices.

As to claim 4, Japan 409 suggests using alternating rows of sections S1, S2.

As to claims 5-7 and 22, the use of the figure 4c embodiment for the trace of the sipe at the tread surface and the trace of the sipe in the depth direction form a planar polygonal (square) vertex. In claim 7, the claimed different shapes would have been obvious in view of Japan 509's teaching that the period and amplitude of sections S1, S2 may differ (paragraph 16 of machine translation).

As to claims 9 and 10, sections S1, S2 are inclined at the same angle.

As to claim 13, it would have been obvious to one of ordinary skill in the art to increase the width of the sipe as the radial depth of the sipe increases since it is taken as well known / conventional per se in the tread art to provide the bottom of a sipe with an increased width portion having a circular / flask shape to improve water drainage or prevent cracking.

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**7) Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 509 as applied above and in view of Heinen (WO 99/48707).**

As to claims 8 and 12, it would have been obvious to one of ordinary skill in the art to decrease the cross sectional area / axial extent of the projections and recesses of Japan 509's three dimensional sipes as the radial depth increased since (1) Japan 509 teaches that the period and amplitude of sections S1, S2 may differ (paragraph 16 of machine translation) and (2) Heinen, also directed to three dimensional sipes having projections and recesses, suggests decreasing the size of the projections/ recesses as the radial depth increases as an alternative to using constant size projections / recesses (figure 6).

**8) Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 509 as applied above and in view of Lagnier 002 (US 5,783,002).**

As to claim 11, it would have been obvious to one of ordinary skill in the art to use different angles for Japan 509's three dimensional sipes as claimed since Lagnier 002, also directed to a three dimensional sipe having recesses / protrusions, suggests providing a three dimensional sipe with a configuration (e.g. wavelength) which is constant or varying (col. 4 lines 15-35).

**9) Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 509 as applied above and in view of Maitre (US 5,095,963) or Lagnier 126 (US 4,994,126).**

As to claim 14, it would have been obvious to one of ordinary skill in the art to branch the three dimensional sipe as claimed in view of the suggestion from either

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Maitre or Lagnier 126 to branch the radially inner portion of a sipe to improve wear resistance.

10) **Claims 15-16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 509 as applied above and in view of Lagnier 002 (US 5,783,002) and/or Heinen (WO 99/48707).**

As to claims 15-16 and 18-20, it would have been obvious to one of ordinary skill in the art to form Japan 509's sipe using a mold blade having a corresponding shape in view of the suggestion from Lagnier 002 and/or Heinen to form a three dimensional sipe for a tire tread using a mold blade having a shape corresponding to that of the sipe.

#### **Allowable Subject Matter**

11) **Claims 1, 15 and 20 would be allowable if amended to include the hexagon shape for the protrusions and cavities shown in figures 6A and 6B of applicant's disclosure.**

Although use of a hexagon shape for a sipe is known per se as evidenced by Japan 923 (paragraph 23 of machine translation) and Heinen (figure 8), the prior art of record including Japan 923 and Heinen offer no motivation to vary Japan 509's sections S1 and S2 such that the protrusions and recesses have a hexagon shape as shown in figures 6A and 6B of applicant's disclosure.

#### **Remarks**

12) Applicant's arguments with respect to claims 1, 4-16 and 18-22 have been considered but are moot in view of the new ground(s) of rejection.

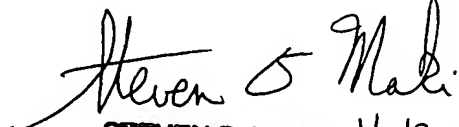
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13) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki  
April 12, 2006

  
**STEVEN D. MAKI** 4-12-06  
**PRIMARY EXAMINER**